All-Weather Road Servicing Options for Shamattawa Public Consultation

Report

August 2001

All-Weather Road Servicing Options for Shamattawa - Public Consultation

Province of Manitoba, Ministry of Transportation and Government Services Department

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David P. Krahn, P. Eng. - Project Manager

Submitted by

Dillon Consulting Limited

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Attention: Mr. Amar Chadha, P. Eng.
Director of Transportation Systems Planning and Development

Summary Report for the Community of Shamattawa Public Consultation

Dear Mr. Chadha:

Attached find the summary report for the Public Consultation and associated technical work that has been carried out relative to community access for Shamattawa.

During the Public Consultation in Shamattawa, the existing winter road and air access conditions were reviewed with the community and the community leadership. Discussions centred on potential alternatives for improved access. The visit to the community and discussions with the chief, other community leaders, and residents provided the study team with a greater appreciation of the specific access issues faced by Shamattawa residents.

We would like to acknowledge the Shamattawa Landing community leadership's support and also the direct involvement and technical input of Manitoba Transportation and Government Services.

Yours truly,

Dillon Consulting Limited

David P. Krahn, P. Eng.
Project Manager
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SYNOPSIS

The community of Shamattawa, with its population of 920 people, is entirely reliant on a 200 km winter road and scheduled air service for the transport of goods and people. Gillam and Thompson represent its closest and primary destination points, although some medical transport goes directly to Winnipeg.

The existing winter road requires a five to six hour travel time to Gillam and then another three hours by All-Weather Road to Thompson. Air travel time to Thompson is in the order of one hour and fifteen minutes.

There is considerable concern about the reliability of the winter road, particularly as it relates to major stream crossings, steep grades, and roadway widths. Also, weather conditions can adversely affect both the road and air travel.

Based on a very preliminary transportation cost analysis, there is not a strong economic case to be made for building an All-Weather Road. The 20-year present value of transportation benefits covers only 35% of All-Weather Road costs of $100 Million or more. The project would require significant additional justification on a socioeconomic basis in order to become a funding priority.

In the short-term, Shamattawa's situation could be improved if permanent structures were built at key stream crossings, the road was widened, and steep grades were eliminated. In the long-term, it may be possible to improve the winter road operation and coordinate this with a subsidized freight operation.

However, it would be desirable to confirm or modify the existing winter/All-Weather Road alignment at an early date. This would ensure that short-term investments also serve long-term objectives.

1.0 INTRODUCTION

A public consultation meeting was held in the community of Shamattawa on March 26, 2001. The objectives of this meeting were to seek community input on future directions concerning potential transportation improvement initiatives. This information will be used to provide the Province of Manitoba, Ministry of Transportation and Government Services Department with a better insight into the existing transportation system, and to examine alternative means of improving transportation service to Shamattawa.

In attendance at the meeting were:

- Roy Miles, Chief
- Ernest Hill, Councillor
- Sidney Candir, Councillor
- Jorden Hill, Councillor
- Rod Murphy, Minister's Office
- Dan Highway, Manitoba Transportation
- Amar Chadha, Manitoba Transportation
- Mr. David Krahn, Dillon Consulting Limited
- Harold Westdal, H.N. Westdal & Associates

The objective of this report is to summarize consultative exercises conducted with the community and to examine feasible options and a future strategy for the development of improved transportation services to the community.

2.0 EXISTING TRANSPORTATION SYSTEM AND SERVICE LEVELS

2.1 Community Profile

The community of Shamattawa is an isolated community located approximately 360 km east of Thompson, Manitoba. The community has a population of approximately 920 people. Employment in the community is a chronic problem. Statistics Canada records the unemployment rates in the community at 19% based on the 1996 census. This number is expected to be higher since the community has grown by approximately 200 since the last census. Employment in the community is largely derived in the service industry (health, education, police, public works, etc.). Fishing and trapping is also conducted largely for subsistence living and sale of furs.

Population projections for Shamattawa are as follows:

Year	Population
2000	923
2010	1125
2020	1372
2030	1672

Source: Manitoba Transportation and Government Services

The community relies on a winter road and scheduled air service for freight and passenger movement. The winter road to Shamattawa begins in Gillam off Provincial Road 280 and extends for approximately 200 km to Shamattawa. The Gillam to Shamattawa trip takes approximately 5 1/2 hours on the winter road.

Reportedly, 90% of all supplies are shipped to Shamattawa on the winter road.

Scheduled air service is also provided typically consisting of three scheduled flights per day.

The following discussion provides a general overview of the existing transportation network.

2.2 Air Service

Skyward, Calm Air, and Perimeter Airlines each provide daily scheduled flights to and from Shamattawa. The community is serviced by an 1158 m runway, which can accommodate most large turboprop aircraft.

One of the concerns voiced by the community was the proximity of the airport to the community. The community is growing rapidly with new development situated in close proximity to the runway. The community would like to move the airport to "Chicken Hill" approximately 5 km from town.

2.3 Winter Road

Shamattawa relies extensively on the winter road to supply the community with bulk goods. The winter road to Shamattawa begins at Gillam and proceeds approximately 200 km east to Shamattawa. This winter road is constructed annually by the Province of Manitoba. Figure 1 shows the location of the winter road.

The winter road operates approximately from mid-January to mid-April depending on weather conditions. The winter road is considered very reliable in terms of access, but has numerous limitations for heavy vehicle use. River crossings on the Hayes River, Gods River, and other area creeks are problematic due to fast water and poor ice conditions. Transport trucks are often restricted to half loads to facilitate crossings. These crossings also result in early closing of the winter road due to poor ice conditions. In addition to the crossings, the topography along the road results in steep hills for vehicles to climb, particularly at the Hayes River crossing and "Bucky" hill. During poor driving conditions, these hills are difficult for heavy trucks to negotiate. The winter road was also reported to be narrow in selected areas, thereby restricting two-way traffic. In general, it takes approximately 5½ hours to travel from Shamattawa to Gillam. Travel from Shamattawa to Thompson takes approximately 11 hours.

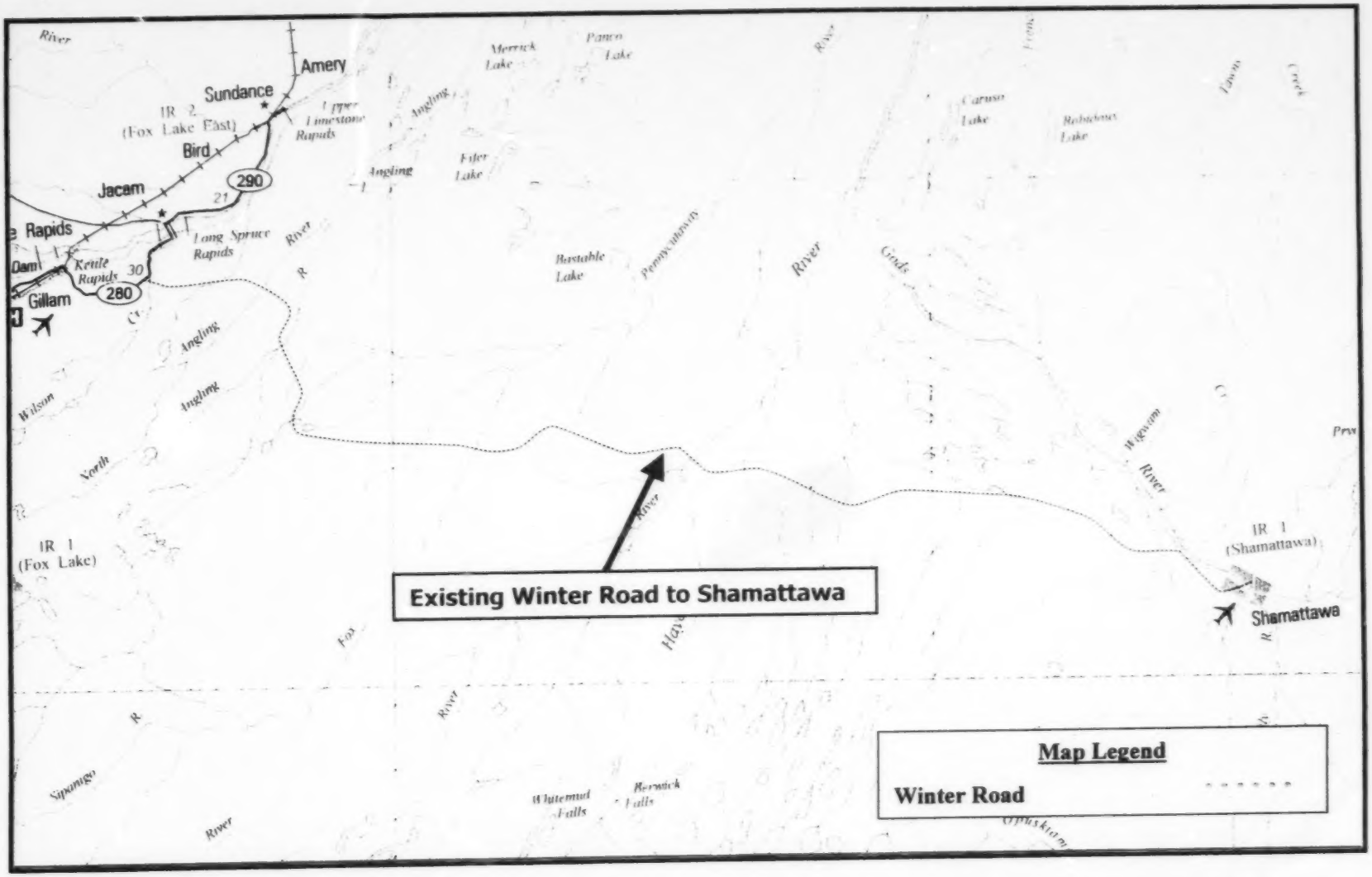
One of the main concerns voiced by the community is the window of time the road is open. Members of the community believe the Provincial Highways Department often closes the road too early. The principal reason for road closure is obvious safety concerns. Despite the provincial decision to close the road, Shamattawa will often still receive shipments. The winter road is considered a critical supply line to the community. Every day that travel on the road is possible, means the economical movement of more freight and people. It is therefore extremely important to the community to keep the road open as long as possible.

Annual costs to construct the winter road are estimated at $185,000.

In addition to the winter road to Gillam, a private winter road is also constructed to Fort Severn in northern Ontario. This 318 km winter road has been constructed annually since 1972. This road is not used nearly as much as the Gillam route due to the distance and typically shorter season of operation.

2.4 Local Vehicles

There are currently 100 to 150 vehicles in the community. Once the winter road is out, vehicles are confined to the community. There are no local resource or pioneer roads.



SHAMATTAWA AREA – WINTER ROAD SITE LOCATION PLAN

FIGURE 1

3.0 EXISTING COMMUNITY INFRASTRUCTURE AND SERVICES

The following provides an overview of the existing community infrastructure.

Hydro/Telephone

Hydro service is provided by a diesel generating plant, phone service is provided by a digital multiplex switching system.

Water Supply

Water supply to most residents of the community is provided by a truck delivery system to individual holding tanks. The local school, teacherages, RCMP, and nursing station are provided with a piped distribution system.

The sewage system consists mostly of pit privies. The school, teacherages, nursing station, and RCMP are connected to a piped sewage collection system, which brings collected sewage to a wastewater treatment lagoon.

Medical

The community is serviced by a nursing station with two full-time nurses. Emergency medical services are accommodated by medical evacuation flights to Thompson or Winnipeg. Medivac access can be problematic when electrical loads from the community preclude the reliable operation of airport runway lights. Ideally, airport operations (including runway lights) should be provided by an independent back-up generator.

Schools

Shamattawa has one school servicing Kindergarten to Grade 10 students. Grade 11 and 12 students reportedly go to Winnipeg for their final high school years.

Police

Shamattawa is serviced by a local RCMP detachment and one First Nations constable.

Employment Opportunities

Employment opportunities are limited in Shamattawa. No significant forestry opportunities are available since the community is outside any forest management unit and access to forestry resources is impractical without the provision of an All-Weather Road. Some subsistence fishing and trapping is practiced by some residents. The majority of employment opportunities lies in the provision of services such as public works operations, police, stores, garage, entertainment, and the provision of social services, etc.

4.0 EXISTING COMMUNITY TRANSPORT NEEDS

Based on the current population, it is estimated that Shamattawa ships in the order of 4,100 tonnes/year of fuel, building material, equipment, food stuffs, etc. Based on available data and community comments, it is further estimated that the relative means of freight delivery to the community is distributed as follows:

- Air Freight ..... 500 tonnes/year
- Winter Road Freight ..... 2,400 tonnes/year
- Personal Hauling ..... 1,200 tonnes/year

Total ..... **4,100 tonnes/year**

Passenger movement for the Year 2000 is estimated as follows:

- Air (5,500 arrivals and departures)
- Winter Road - unknown (average 35 useable days of travel)

Population growth for the community is estimated at 2%/year. Therefore, without a future All-Weather Road, and assuming freight and passenger movement trends are proportional to existing requirements, a near doubling in freight and passenger movements can be expected.

5.0 COMMUNITY TRANSPORTATION COSTS - EXISTING VERSUS ALL-WEATHER ROAD SYSTEM

Approximate freight rates and passenger rates to and from Shamattawa are as follows:

- Air Freight (from Thompson) $1.20/kg
- Air Freight (from Winnipeg) $3.00/kg
- Winter Road Freight (from Winnipeg) $0.80/kg
- Passenger Travel (to Thompson) ..... $290 return
- Passenger Travel (to Winnipeg) ..... $1,400 return

Manitoba Transportation and Government Services estimate of annual potential cost savings with the provision of an All-Weather Road to the community are as follows:

- Freight Transport Cost Savings -$1,660,000/year.
- Passenger Transport Cost Savings - $520,000/year.
- Medivac Travel - $200,000/year.

These savings do not include costs for the following items:

- Accommodation costs in Thompson or Winnipeg.
- Medivac costs.
- Ambulance costs from Thompson Airport or Winnipeg Airport.

While the actual cost of freight and passenger transport is highly dependent on a variety of factors such as vehicle load/ultimate origin or destination/etc., it is not unreasonable to suggest the following overall transport costs based on efficient use of equipment:

	Existing Winter Road System	All-Weather Road System
Road Travel (to and from Thompson)	500 trips @ $80.00 = $40,000	1,600 trips @ $75.00 = $120,000
Road Freight (from Winnipeg via Thompson)	2400 tonnes @ $800.00 = $1,920,000	2400 tonnes @ $600.00 =$1,440,000
Air Freight (from Winnipeg)	500 tonnes @ $3,000.00 = $1,500,000	500 tonnes @ $600.00 = $300,000
Air Passengers* (to/from Thompson)	3,100 trips @ $290.00 = $900,000	1,100 trips @ $290.00 = $300,000
Medivac (to Thompson)	estimated @ $400,000	estimated @ $200,000
Total System Costs	**$4,760,000**	**$2,360,000**
Total System Savings due to All-Weather Road		**$2,400,000**

* Assumes Thompson origin/destination for all air passengers.

6.0 TRANSPORTATION STRATEGIES AND SERVICE IMPROVEMENT OPTIONS

Shamattawa is a very isolated community in northeastern Manitoba. The community is dependent on winter road access and air service for the provision of all goods and services. Due to its remote location, the estimated cost of providing an All-Weather Road to Shamattawa is in the order of $100 million. This equates to an annual cost of approximately $9 million/year amortized over 50 years at a 8% interest rate. Estimated cost savings with an All-Weather Road are in the order of $2.4 million/year. On a strictly transportation cost basis, an All-Weather Road is clearly not an economical option for consideration. It is noted, however, that several Ontario communities would have an interest connecting to the Shamattawa road; this may merit consideration on a cost-sharing basis.

It is however possible that the existing winter road could be improved to better facilitate access. This includes addressing steep hills at Bucky Hill and at the Hayes River crossing. These could be improved by examining route alternatives or considering existing route improvement works at these areas. Permanent crossings at the Hayes River and other key creeks could also lengthen the time the All-Weather Road is open. Widening of the road would also facilitate two-way traffic and improve traffic speeds.

In summary, improvements to the winter road should be considered to improve traffic movement and increase the length of time the winter road can be used. Future review of All-Weather Road routes and costs should be considered as the community grows and economic opportunities present themselves.

However, in order to ensure that short-term investments serve longer-term objectives, it would be desirable to confirm or modify the alignment of the winter road/All-Weather Road system at an early date.